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**THESIS**

**AN ANALYSIS OF THE FINANCIAL INCENTIVES  
PROVIDED BY A CAPITATION-BASED RESOURCE  
ALLOCATION SYSTEM WITHIN THE MILITARY  
MEDICAL DEPARTMENT**

by

Lorraine E. Nudd  
December, 1993

Principal Advisor:

William R. Gates

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**An Analysis of the Financial Incentives Provided by a Capitation-Based Resource Allocation  
System Within the Military Medical Department**

by

**Lorraine E. Nudd**  
Lieutenant, United States Navy Reserve  
B.S., Alfred University, 1989

Submitted in partial fulfillment  
of the requirements for the degree of

**MASTER OF SCIENCE IN MANAGEMENT**

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**NAVAL POSTGRADUATE SCHOOL**  
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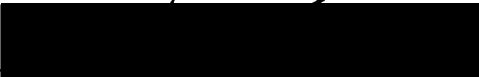
Author:

  
Lorraine E. Nudd

Approved by:

  
W. R. Gates, Principal Advisor

  
K. L. Orloff, Associate Advisor

  
D.R. Whipple, Chairman  
Department of Administrative Sciences

## ABSTRACT

This thesis analyzes whether a capitation-based resource allocation system will provide the incentives necessary to pursue or provide quality, cost-effective care within the Military Medical Department. To answer this question, capitation budgeting and its salient characteristics were defined. Then, the risks and incentives associated with capitation budgeting were compared against other budgetary methods. Subsequently, the civilian sector's experience with prepaid, managed care plans was analyzed, focusing on the incentives to the various health care players. It also questioned whether the quality of care has been effected. Next, the study drew on civilian sector experience to evaluate the potential impact of incentives on various players in the Military Health Services System. The study concludes that a capitation-based resource allocation system will provide the various players in the military health care arena with the proper incentives to provide quality, cost-effective care.

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## **I. INTRODUCTION**

### **A. BACKGROUND**

The Department of Defense (DoD) Medical Health Services System's (MHSS) mission is to provide and promote quality health care services for military personnel, their families and other beneficiaries during peace and war (U.S. DoD OASD(HA), April 1993). As the nation's largest employer, and one of the largest health care providers in the world, the military is facing unprecedented challenges in managing steadily rising health care costs. These challenges are consistent with those confronting the civilian health care community (U.S. CBO, May 1993). The reasons for increasing health care costs include high-priced medical technology, proliferation of facilities and services, increased labor costs, reduced beneficiary cost-sharing, changes in medical practice/standards, and normal inflation (U.S. DoD OASD(HA), April 1993). However, it is important to recognize that the current budgeting and allocation system plays a significant role in the observed inflationary trend.

Military health care providers have few incentives to curb the delivery of unnecessary and inappropriate health care. In the direct health care system, DoD has historically provided each medical treatment facility (MTF)

commander with a budget based on the quantity of care delivered and the level of resources used at the military treatment facility (U.S. CBO, May 1993, p. 13).<sup>1</sup> To increase the facility's budgeted demand, the medical MTF commander only has to deliver more care and use more resources. This budgeting and allocation methodology may provide significant disincentives for efficient resource use. For example, MTF commanders are rewarded with larger budgets for producing more workload without always being held accountable for the necessity of the workload generated. To encourage economical behavior, health care providers must be motivated to prescribe economically.

A perceived solution to combat these problems is to revamp the health care system. Incentives should motivate consumers and suppliers to pursue and provide cost-effective care (U.S. DoD OASD(HA), April 1993). The goal is a system that delivers value by giving people access to high quality, efficient health care. A population-based financial resource allocation methodology, or capitation budgeting, has been proposed to accomplish this (U.S. DoD OASD(HA), March 1993, p. 1). The fundamental purpose for implementing

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<sup>1</sup>The direct health care system is made up of hospitals and clinics operated by the Army, Navy, and Air Force. It includes 140 hospitals and 553 clinics worldwide and employs more than 54,000 civilian, as well as 146,000 active-duty military personnel. Almost all of the care that beneficiaries receive through the direct care system is supplied by military physicians working at the Medical Treatment Facilities (MTFs). (U.S. CBO, 1993, p. 3)

a capitated model is to create the proper incentives for using scarce resources efficiently. Transferring financial risk from DoD and the military departments to the local catchment area is expected to create this incentive. In an appropriately structured capitated system, commanders benefit from savings realized from increased productivity. This should give them an incentive to optimize performance. Capitation rates are also prospectively determined, which should make budget development and execution more predictable and objective.

Under a capitation-based resource allocation system, the commander of each MTF assumes responsibility for providing a defined range of necessary health services to a defined population, for a fixed amount per beneficiary, regardless of the services used (U.S. CBO, 1988, p. 56). Presumably, there is no financial incentive under this approach to increase the number of services or to provide more costly care than is clinically appropriate. Capitation is designed to discourage inappropriate admissions, unnecessarily long lengths of stay and unwarranted services.

## **B. RESEARCH QUESTIONS**

This research encompasses a comprehensive analysis of whether a capitation-based resource allocation system will provide the incentives necessary to pursue or provide quality, cost-effective care within the military medical

department.<sup>2</sup> To answer this primary question, four subsidiary research questions will be addressed:

- (1) What incentives exist for the local commanding officer under a capitation-based resource allocation system?
- (2) Does a capitation-based resource allocation system provide military physicians with the incentives to provide cost-effective care?
- (3) What are the incentives for the beneficiaries of the MHSS under a capitation-based resource allocation system?
- (4) Will the quality of care erode under a capitation-based resource allocation system in the MHSS (will the incentive exist for health care providers to withhold necessary health care services)?

#### C. SCOPE AND LIMITATIONS OF THE THESIS

The focus of the analysis was to determine if a capitation-based resource allocation system within the MHSS would provide the necessary incentives to provide quality, cost-effective care. Base year per capita cost computations will not be analyzed here, neither will the procedures for implementing capitation budgeting within the MHSS. Also, the analysis will be limited to the private sector capitation methodology because policies are evolving within the DoD. Details of the DoD policy and the proposed DoD capitation model are being developed by the Office of Assistant Secretary of Defense (Health Affairs) (OASD(HA)).

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<sup>2</sup>In this study, quality of care under capitation budgeting will be compared to quality of care under fee-for-service.

The analysis will concentrate on health care services analogous to civilian health care, and will exclude military unique functions.

Appendix A contains the current FY94 capitation methodology for the military departments developed by the OASD(HA).

#### **D. LITERATURE REVIEW AND METHODOLOGY**

The research effort was not based on results of previous studies or ongoing studies. However, previous studies have been conducted on a capitation-based resource allocation system within the military medical departments. Capitation budgeting is also currently being introduced into the MHSS; a form of capitation budgeting will be introduced in FY 1994.

Data was gathered primarily through telephone communication with key individuals at the Bureau of Medicine and Surgery (BUMED), and by reviewing available literature, reports, memorandums, testimonies and other official correspondence on capitation budgeting.

#### **E. ASSUMPTIONS**

Capitation budgeting is a method for paying a provider a fixed price per person served for a defined range of services and a specified time period (Aiken, 1989, p. 6). One essential element of capitation budgeting is that a

defined population must exist. Currently, a clearly defined beneficiary population through closed enrollment is not an element of the Military Health Services System. An MHSS enrollment system is currently being discussed, in conjunction with implementing capitation budgeting. This analysis acknowledges that an enrollment system is an integral component for true capitation budgeting in the MHSS.

#### **F. DEFINITIONS**

See Appendix B.

#### **G. CHAPTER OUTLINE**

Chapter II will summarize current literature with the emphasis on the definition and salient characteristics of capitation budgeting. Also, the risks and incentives associated with capitation budgeting will be compared to other budgetary and payment methods. Finally, the advantages and disadvantages of capitation budgeting will be addressed. These findings will be used as a foundation for the remaining chapters.

Chapter III will outline managed health care in the private sector. This chapter will also address the incentives provided by capitation budgeting among the various players in the private sector: hospitals, physicians, and patients. The concerns and impact of



quality of care under a capitation budgeting methodology in the private sector will also be examined.

Chapter IV will compare and contrast the civilian sector capitation budgeting experience and its incentives to the MHSS (as it currently operates). This analysis will provide the basis to conclude if the incentives provided under capitation budgeting in the civilian sector will carry over to the MHSS.

Chapter V summarizes the results of the analysis. Additionally, the chapter provides recommendations regarding the findings and conclusions.

## **II. CAPITATION BUDGETING CONCEPT**

This chapter defines capitation budgeting and its salient characteristics. It also compares the risks and incentives associated with capitation budgeting against other budgetary methods. Finally, the advantages, disadvantages, and potential problems of a capitation-based resource allocation system will be addressed. This depiction of capitation budgeting will be the foundation for discussing capitation in both the civilian sector and the MHSS.

### **A. DEFINITION**

A capitation-based resource allocation system is increasingly advocated as a budgeting strategy to consolidate resources, develop services, focus responsibility, and manage care appropriately. Basically, capitation budgeting can be defined as a prospective reimbursement process where the provider is paid a fixed price per person served for a defined range of services and a specified time period (Aiken, 1989, p. 6). Under this definition, capitation has three crucial elements: (1) care is prepaid with a predetermined, agreed-upon price, and does not vary according to the value or intensity of services;

(2) the payment is tied to specific capitated patients, typically through some type of an enrollment system; and (3) the provider bears full financial risk if expenditures exceed payments. Combined, these elements give the provider a strong incentive to manage care wisely. Alternatively, the provider keeps part, if not all of the savings when the medical costs are within the capitated payment. (Schroer, 1987, p. 128)

Capitation budgeting fundamentally governs the users' payment to the organization providing health care (Aiken, 1989). It is not required that doctors or other professional personnel be paid on a per capita basis under capitation budgeting. Providers could be paid by the program in a wide variety of ways, including salary and fee-for-service. Those who finance care are more concerned with controlling aggregate costs than with the particular mode of remuneration among providers (Aiken, 1989, p. 8).

## **B. CHARACTERISTICS**

Capitation budgeting is designed to create financial incentives for health care providers to contain costs, but it also places them at financial risk. To fully understand if capitation budgeting will provide the incentives for cost effective care in the Military Health Services System, the risks and incentives associated with capitation budgeting must be examined.

## **1. Risk**

For the purpose of this study, risk is defined as the chance of loss, or the possibility that the health plan's revenues will not be sufficient to cover expenditures incurred in delivering health care services (Shouldice, 1991, p. 516). Risk also includes the opportunity that the provider realizes profits by keeping the medical costs below the capitated payments. Thus, risk creates a financial stake for the health care provider in the health plan's operation because their compensation is based, to some degree, on their ability to hold services to an appropriate level and to economize on more expensive services (Shouldice, 1991, p. 213).

According to Barry Volin, director of Health Care Plus and Assistance Vice President for Managed Care Services at Lutheran Medical Center, "in a capitated ... model, you don't get paid to provide care, you get paid to assume the risk to provide care" (Volpp, 1993, p. 1712). Having the provider assume the financial risk in health care services is different from traditional fee-for-service. It must be examined to fully understand its consequences.

## **2. Incentive**

In this discussion, incentive is defined as the means to motivate efficient hospital/health care management. Incentives also encourage physicians to decrease hospital

utilization, resource judiciously, and emphasize preventive health services (Shouldice, 1991, p. 100).

Because hospitals typically assume full risk under a capitation-based resource allocation system, the prospective payment system (PPS) is expected to eliminate the incentive to perform unnecessary services. The incentives under capitation budgeting are sharply different from other traditional payment mechanisms (i.e. fee-for-service and per diem payment). The incentives inherent under this PPS will be contrasted to the other financing methods to better understand the ramifications of capitated budgets.

## **C. PROVIDERS OF HEALTH CARE SERVICES**

### **1. Hospitals**

When a hospital receives a capitated payment, it receives a fixed amount per patient for an all-inclusive level of care for a given population - whether or not that population seeks care. This means that the capitated provider takes on the full risk of providing health care to that patient population.<sup>3</sup> Risk sharing attracts wide support from health care consumers because it signals accountability for the cost of health care. However, in order for the health care provider to assume this financial

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<sup>3</sup>Full risk includes both the medical risk of providing health and full financial risk.

risk, there must be economic incentives inherent in this budgetary method.

There are a wide variety of provider payment options and the risk and incentives associated with each varies. This spectrum ranges from no economic risk and the incentive to over-utilize care (fee-for-service), to full economic risk and the incentive to minimize services (capitation budgeting). A common payment mechanism that falls in the middle of the spectrum is per diem payment. These payment mechanisms and their associated risk and incentives will be discussed to indicate the significance of assuming full economic risk with a capitation-based resource allocation system.

#### *a. Fee-For-Service*

From the perspective of the health care provider, fee-for-service is the preferred reimbursement method because it is the least risky (Barger, 1985, p. 89). Under fee-for-service billing, the hospital is reimbursed for each service rendered. The provider assumes no risk in this model (other than the typical risk inherent in any business enterprise such as bad debt expense). The provider's cash inflow is directly proportional to the services rendered to patients (Sulmasy, 1992, p. 924).

Fee-for-service health care financing also encourages spending rather than conserving. Health care

decision makers have little or no incentive for cost control. In open-ended fee-for-service systems, economic rewards are predicated on how much one does, whether or not more is appropriate. The rewards are immediate and tangible (Enthoven, 1991, p. 2532). This budgetary system is very inflationary because of all the incentives to provide inappropriate or unnecessary care (Eastaugh, 1992, pp. 240, 241).

Some of the added volume and intensity of care might represent real health benefits to patients, but there is no incentive to ensure that the benefits' value exceed the cost (Eastaugh, 1992, pp. 84-92).

***b. Payment Per Diem***

Per diem payment is an all-inclusive rate for each day of care. This payment method shifts some of the financial risk from the purchaser to the health care provider (i.e., the hospital). As risk shifts to the hospital, it stimulates cost consciousness, and unlike billed charges, offers incentives for efficient daily hospital performance (Barger, 1985, pp. 89, 90). However, the hospital's risk is restricted because it is not financially penalized for excessive lengths of stay and

changes in admission (Barger, 1985, p. 90).<sup>4</sup> Hence, the hospital has only a limited incentive for cost control. The longer a health care provider keeps a patient in the hospital, the larger their income.

However, the hospital could be subject to full risk for ancillary services and changes in case mix (Schroer, 1987, pp. 128-130). The acceptance of this full risk creates the potential for an economic reward if the hospital can control the use of ancillary services for each day of a patient's stay. A common approach to partially avoid the risk associated with changes in case mix is to negotiate individual per diem rates for major service areas, such as intensive care, surgical cases, etc. (Lewin, 1987, p. 47)

### *c. Capitation Budgeting*

As mentioned previously, hospitals, as health care providers, receive a single advance payment for all covered services for each beneficiary for a specified period under a capitated approach. In contrast to fee-for-service payment, capitation encourages providers to control outlays, including both price and volume intensity (Kay, 1990, p.

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<sup>4</sup>This assumes a pure per diem payment scenario where the hospital receives a flat rate for each day of care. This is not based on per case reimbursement and diagnosis related groups (DRGs) where there is a predetermined price for the "package of hospital care." With per case reimbursement and DRGs, the incentive would be to decrease the length of stay, in order to increase financial remuneration.



142). Capitation offers no incentive to provide more health care services than necessary. It offers the long run incentive to provide preventive care, saving money in future years. This is because the hospital assumes full economic risk and accepts responsibility for providing all the required health care services for a defined population for a prospective, negotiated payment.

In theory, capitation also breaks the tie between payment and the specific service provided. The health care provider has the opportunity to assess the need for services and make decisions based on professional and clinical judgement, free from traditional monetary considerations (Aiken, 1989, p. 14). However, capitation budgeting puts the hospital at substantial financial risk for exceeding per capita payments. This puts the patients' and health care providers' interests at odds creating forceful incentives to underservice (Aiken, 1989). Each dollar spent on health care is a dollar drawn away from the health care provider's income.

## **2. Physicians**

The reimbursement mechanisms employed for health care have traditionally placed the hospital at financial risk. For the most part, physicians have escaped this burden. They do not normally participate in any risk sharing arrangements. Many physicians are still reimbursed

under the conventional fee-for-service or salary systems. Both are basically risk free for the doctor. (Rosenstein, 1991, pp. 315, 316)

Under a fee-for-service arrangement, a physician's income increases with the number of services provided, which is commonly referred to as the "production" formula. The physician is essentially shielded from any risk. This payment mechanism can encourage inefficient use of medical resources. The financial incentive is to overuse the most expensive health services (Shouldice, 1991, p. 18).

Four factors contribute to this incentive. First, as mentioned above, the physician's income increases with the number of services provided. Second, the physician's main priority is to deliver high-quality care. Unfortunately, high-quality care frequently translates into high-quantity care. The "do more, know more" mind-set is reinforced throughout the medical school and residency training period. Third, there is the constant introduction of new medical technology, which contributes to growing costs. New technologies reduce the medical risks and increase the benefits of patient care. If doctors are paid under fee-for-service, new technologies become common medical practice without much regard to their cost. Finally, escalating malpractice concerns encourage doctors to order extra tests, obtain second opinions and practice other measures of defensive medicine. Fee-for-service

payment encourages doctors to practice defensive medicine. (Rosenstein, 1991, pp. 321-331)

The risk to a salaried physician is also limited. In salary systems, neither the physician's income nor the budget available for patient care depend upon the level of per capita patient care (Sulmasy, 1992, p. 326). However, production may be low for a salaried physician because the physician's income is not contingent on productivity. The salaried physician may also over-use costly technology simply because it requires less effort (Sulmasy, 1992, p. 324).

The ability to reduce health care costs is determined in part by the physician payment mechanism. Cost may remain excessive for a hospital financed with a full risk capitated budget if the physicians work under a no risk fee-for-service arrangement. Physicians have the incentive to inflate the chargeable services even if it harms the hospital's financial status (Eastaugh, 1992). Unless physicians accept some risk sharing, cost effectiveness may not be improved.

### **3. Summary**

The following tables summarize the risk and economic incentives intrinsic in the payment mechanisms discussed for health care providers, both the hospitals and physicians, in

regards to admissions, length of stay and resources used under each (Rosenstein, 1991, p. 316).

#### INCENTIVES FOR HOSPITALS

TABLE I

<u>Hospitals</u>	<u>Admissions</u>	<u>Length of Stay</u>	<u>Resources Used</u>
Fee-For-Service	+ no risk	+ no risk	+ no risk
Per Diem	+ limited risk	+ limited risk	- full risk
Capitation	- full risk	- full risk	- full risk

+ = incentive to increase  
- = incentive to decrease

Fee-for-service payment has no economic risk and encourages health care providers to increase admissions, length of stay, and the amount of resources used. In contrast, full risk capitation-based budgets encourage providers to decrease the number of admissions, the length of stay and the resources used. Pure per diem payment falls in between the two extremes. It has limited risk for admissions and length of stay, and full risk for the ancillary resources used. This encourages providers to increase both admissions and length of stay, but decrease the resources used.

## INCENTIVES FOR PHYSICIANS

TABLE II

<u>Physicians</u>	<u>Admissions</u>	<u>Length of Stay</u>	<u>Resources Used</u>
Fee-for-service	+ no risk	+ no risk	+ no risk
Salary	neutral no risk	neutral no risk	+ no risk
Capitation	- full risk	- full risk	- full risk

+ = incentive to increase  
 - = incentive to decrease

A physician who receives fee-for-service payment has the incentive to increase admissions, length of stay and resources used. Salaried physicians are subject to no risk, because the physicians' income does not depend on per capita patient care. In this respect, the physician has neither an incentive to increase or decrease the number of admissions and length of stay. However, salaried physicians have the incentive to increase the number of resources used to the extent that this requires less effort and has no impact on them personally. Physicians who are capitated, accept full risk of providing health care services to patients and have the incentive to decrease admissions, length of stay and the resources used.

#### **D. PRINCIPAL ADVANTAGES**

The obvious advantage of capitation budgeting is cost control, curbing the escalating dollars spent on health care in the United States. The PPS creates financial incentives for health care providers to contain costs. Health care providers increase their profits by practicing cost-effective medicine and coordinating and eliminating redundancies in services (Schroer, 1987, pp. 127-129). Capitation budgeting also creates a predictable cash flow, eliminates the standard billing process and circumvents potential lengthy delays in claims payment (Schroer, 1987, p. 129).

#### **E. PRINCIPAL DISADVANTAGES**

The primary disadvantage of a capitation-based resource allocation system is that the provider assumes full risk for the possibility that the treatment required by a capitated patient will exceed the capitation amount. For some health care providers, this risk far outweighs the advantages (Schroer, 1987, p. 129). A capitation system also places virtually all of the responsibility and rewards for effective management in the hands of the provider, who may not want all of the responsibility (Schroer, 1987, p. 129).

## **F. POTENTIAL PROBLEM**

Capitation theoretically rewards providers for not providing services. Under this premise, capitation budgeting could compel health care providers to become restrictive gatekeepers. Physicians will continually be forced into a series of moral stress tests, knowing that the consequences of doing good for a patient and ensuring quality care will either reduce their profits or limit the resources available to other patients. The physician-patient relationship could be undermined if patients feel that they cannot trust their physicians to act in their best interest. (Shouldice, 1991)

Although physicians have the incentive to withhold treatment from patients and undermine quality care for financial gains under capitation budgeting, there are arguments why this is not plausible. First, physicians as licensed practitioners are worried about their reputation as professionals. Also, there is incentive not to sacrifice quality of care because of the competition for subscribers among health care organizations in the medical field. The net balance of these conflicting incentives is currently being debated.

Capitated managed care plans also instill quality management programs. These programs are designed to determine the quality of care baseline and to develop and maintain programs to keep it at an acceptable level. They

also institute improvements when the opportunity arises or the care does not meet standards. (Slee, 1987, p. 120)

#### **G. SUMMARY**

It is presumed that capitation budgeting gives health care providers a strong incentive to provide appropriate care in a timely and efficient manner, to account for the cost of care, and to plan cooperatively. For the purpose of this analysis, capitation budgeting will refer to a system in which (1) care is prepaid with a predetermined price; (2) the payment is tied to a number of capitated patients; and (3) the provider is at financial risk for expenditures. Accordingly, the provider has an incentive to manage care wisely. Given this foundation, the following section will discuss the private sector's experience with capitation budgeting, including the incentives to the various health care players and their effects on the quality of health care.



### **III. CIVILIAN SECTOR'S EXPERIENCE WITH CAPITATION BUDGETING**

Given the characteristics and summary of incentives and risks in the previous section, this chapter will address the private sector's experience with capitation budgeting under managed care. First, managed care will be defined, and the proliferation of managed care programs and pre-paid group practices will be discussed. This study will then focus on the incentives to the various health care players under a pre-paid managed care program.<sup>5</sup> Finally, the chapter will address whether a prospective payment system has affected the quality of health care, as compared to the traditional fee-for-service payment systems. These findings will answer the four subsidiary research questions from a civilian sector perspective. The subsequent chapter will draw on these findings and address these questions from the perspective of the MHSS.

#### **A. MANAGED HEALTH CARE**

Managed care is one of the fastest growing cost and provider accessibility control systems in the United States health care delivery industry (Engoron, 1988, pp. 44-46).

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<sup>5</sup>Unless indicated otherwise, the incentives, outcomes and findings discussed throughout this thesis pertain to the staff and group HMO models.

The rocketing growth of managed care responds to one of the most difficult problems facing the American people: controlling their medical expenses. Increased demand for improved health care and sharply rising costs have made health care a critical economic issue for health care consumers and suppliers, employers, private health insurers, and public agencies (Hailstones, 1991, p. 242).

### **1. Definition**

Managed care is loosely defined as an arrangement in which a third party directs patient access and health care utilization (Flores, 1987, pp. 10-13). The American Medical Association (AMA) defines Managed Care as:

the control of access to and limitation on physician and patient utilization of services by public or private payers or their agents through the use of prior and concurrent review for approval of or referral to service or site of service and financial incentives or penalties (Iglehart, 1992, p. 965).

Accordingly, one can conclude that the basic goal of managed health care programs is to reduce both the unit price and volume of health care services provided. While there is no uniform agreement about what constitutes a "managed care program," most include the following six features:

- (1) Channeling patients to high-quality, efficient providers;
- (2) Creating reimbursement systems where physicians and hospitals are accountable for the cost and quality of medical services;

- (3) Monitoring and analyzing medical practice patterns;
- (4) Establishing quality assurance programs;
- (5) Designating Primary Care Physicians (PCPs) and catastrophic case managers; and
- (6) Installing rigorous utilization management components. (Luft, 1980, pp. 1-5)

Managed care programs are identified most often as Health Maintenance Organizations (HMOs), Preferred Provider Organizations (PPOs), or any of a number of hybrids among these products (Shouldice, 1991, p. 1). Appendix C provides a brief description of some common managed care organizations.

## **2. History**

Accelerating health care costs in the late 1960s and the trend toward high technology medicine were the two major forces fostering a radical change in financing health care. In the early 1970s, the Federal Government embraced the concept of HMOs as its major strategy for creating an efficient and fair health care delivery system (Wallack, 1991, p. 27). HMOs are direct service plans which accept a prepaid premium from their subscribers (members) and deliver services through their professional staff and affiliated organizations (Shouldice, 1991, pp. 13-16). Since all fees have been prepaid through a premium, the HMO does not charge the patients for specific services rendered, although the

patients may have obligations to pay copayments and/or deductibles (Shouldice, 1991, pp. 13-16).

Widespread support for HMOs was based on the belief that it would benefit all three parties in the health service transaction - providers, payers, and patients. The patient would face lower out-of-pocket costs, employers would pay lower health insurance premiums for their employees, and the providers, by keeping costs down, would expand their market share or earn surpluses. (Wallack, 1991, p. 28). There are three principles and practices followed by this alternative delivery and financing system (ADFS). First, patient care is managed (i.e., access and utilization of specialty, emergent and hospital care is controlled); second, there is a selected group of providers; and finally, the providers are subject to some financial risk because revenues are determined by a prepaid premium (Wallack, 1991, pp. 27-31).

Managed care, in the form of HMOs, began its most active growth period after Congress passed Title XIII of the Public Health Service Act, better known as the 1973 HMO Act. This act allowed managed medical care plans to proliferate by expanding enrollment to governmentally financed health care programs, such as Medicare and Medicaid. (Kongstvedt, 1989, pp. 3-5). Before 1970, there were fewer than 50 HMO-like organizations, with an enrollment of less than 2 percent of the health insurance market (Shouldice, 1991, p.

29). After reaching a high of 653 in 1988, the number of HMOs has since declined as a result of mergers, consolidations, and terminations (Shouldice, 1991, pp. 29-31).

### **3. Medicare**

With the enormous growth of the HMO industry, the Federal Government expanded its risk-based reimbursement approach as part of the Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA). TEFRA authorized Medicare to pay, on a prospective rate-setting basis, those organizations that have a cost-based or risk-based contract with the Health Care Financing Administration (HCFA). (Shouldice, 1991, pp. 49-53). The legislation widened the scope of health service organizations (HSOs) that were eligible to contract with Medicare to include both federally qualified HMOs and competitive medical plans (CMPs) (Shouldice, 1991, p. 52). The HSO, in return for a fixed monthly fee per Medicare enrollee, accepts the risk for providing all Medicare services. HMOs and CMPs under contract to the HCFA are reimbursed according to an adjusted average per capita cost (AAPCC).<sup>6</sup>

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<sup>6</sup>AAPCC is Medicare's managed care payment system. Payment is set at 95 percent of the amount estimated by the Health Care Financing Administration that similar care would have cost in a fee-for-service setting. (Shouldice, 1991, p. 505)

## **B. INCENTIVES FOR THE PROVIDER OF HEALTH CARE**

### **1. Hospital**

The hospital sector's incentive structure has been revolutionized by the prospective payment system (PPS). According to Eastaugh (1992), before the PPS was enacted, rational managers emphasized revenue enhancement, maximization of reimbursements, and often, negative productivity shifts. In the future, cost reduction through productivity improvements will prevail, not old-style growth and revenue maximization. A production of unnecessary services is inefficient, and the institution will not be compensated for them under PPS. (Eastaugh(a), 1992, pp. 313, 314)

#### **a. Delivery Incentives**

A major goal of the hospital prospective payment system is to change the delivery incentives to encourage prevention and prudent, coordinated, cost-effective care (Hailstones, 1991, pp. 224, 242, 243). Hospitals, as health care providers, can accomplish this goal by (1) introducing a gatekeeper to prevent unnecessary care and (2) stressing preventive care so conditions can be treated sooner (prior to the need for hospitalization).

(1) *Gatekeeper*. Health care providers have obvious incentives under a capitated-based resource allocation system to curtail hospital utilization and

specialist referral (Eastaugh(a), 1992, p. 85). One way health care providers can reduce hospital utilization and specialty referral is to introduce the concept of the gatekeeper or managing physician. Under this scheme, the patient has unlimited access to the primary care physician (gatekeeper) but must obtain a referral from that physician in order to receive health services from specialists, whose fees are generally higher (Shouldice, 1991, pp. 114, 115).

(2) *Preventive Care.* The health care provider is paid the same monthly fee for each member of the HMO regardless of the costs of caring for that member. This capitated payment creates strong incentives for HMOs to provide appropriate care in a timely and efficient manner. Illnesses that go untreated are more expensive in the long run. By stressing preventive and outpatient care, HMOs hope to reduce the economic waste associated with overusing the emergency room and inpatient hospital services (Kongstvedt, 1989). Decreasing expensive emergency room utilization is a key factor in cost savings. Members that have prepaid their medical services are also more likely to seek care in the early stages of illness (Hailstones, 1991, pp. 242, 243). This keeps HMO members healthier at reduced costs.

**b. Utilization of Care**

The private sector's experience with managed care programs indicates that the incentives for health care

providers to offer cost effective care have been effective. Compared to the traditional budgeting method, there are fewer days of hospital care for a given population under capitation budgeting.

In the conventional fee-for-service sector, Americans experience about 960 days of hospital care per thousand persons; in prepaid group-practice plans, the comparable figure is 460 days (Starr, 1992, p. 31). The health care provider's financial risk of exceeding the per capita fee under capitation budgeting affords an incentive to provide preventive, efficient medical care. Studies evaluating the appropriateness of care indicate that as much as 30 percent of the tests and procedures in the United States are unnecessary. Taking all sources of inefficiency into account, roughly one-third of health care expenditures are unwarranted (Starr, 1992, pp. 30-32).

A capitation-based resource allocation system creates the incentive to economize on health care services. This contributes to a decline in unnecessary services, saving valuable health care dollars.

## **2. Physician Incentives**

Physicians are the key players in a managed care program. In general, health care payers want to reduce costs and eliminate wasted nonessential medical care. In particular, hospitals under capitation are at financial risk



and want to improve their efficiency in health care operations. However, the ultimate cost of providing the care is out of their hands. It is the physicians who have the ultimate responsibility for providing ongoing quality medical care (Rosenstein(b), 1991, p. 179). They are the ones responsible for deciding which tests to order, and what care to provide. In this respect, physicians must be given incentives to reduce expenditures. They must be active participants in the program to reduce health care costs.

**a. *Physicians as Gatekeepers***

Physicians need to be involved as true resource managers to maintain internal control of the health care system. Support of this claim is evidenced by the fact that over 90 percent of HMO's use primary care physicians as gatekeepers. Their role is to authorize access to specialty, emergent, and hospital care and to diagnostic tests (Franks, 1992, p. 424). Patients whose health care is managed by a gatekeeper are less likely to be hospitalized. Studies suggest that primary care physicians in HMOs provide a quality of care that is superior to or at least equal to that in the fee-for-service settings.

According to P. Franks, M.D., a Rand Health Insurance Experiment compared patients assigned to a HMO that used primary care physicians in a gatekeeper role with patients assigned to a fee-for-service group. The HMO

patients were hospitalized 40 percent less often than those in the fee-for-service group. Chart review revealed that inappropriate surgery was selectively reduced in the HMO group. Overall, there were few difference in outcomes between the two groups, although patients assigned to the HMO have a higher quality of care. (Franks, 1992, p. 425)

Gatekeeping, in regards to managed care, has come to be a core function of primary patient care. It is the process of using medical services judiciously, considering the patients' needs and preferences.

(1) *Gatekeepers Payment Methodologies.* When a hospital receives a capitated payment, a critical element is the provider payment methodology. As mentioned previously, physician payment configurations range from fee-for-service payment to capitated payment.

Capitated payments can be limited to primary care physicians (who act as gatekeepers) or can include both primary and specialty care (Rahn, 1987). When capitation exists for primary care services, payment for referral services and institutional services are made from capitation funds (Kongstvedt, 1989). The services themselves may be paid for under a variety of means (fee-for-service, per diem, and capitation), but the expense is drawn against a capitated fund or pool.

When primary care physicians receive a capitated payment for primary care services, a withhold pool is commonly developed. A withhold pool sets aside a predetermined percentage of the primary care capitation every month, this pool is used to pay for cost overruns in referral or institutional services (Kongstvedt, 1989). Any funds remaining in the withhold pool are returned, or shared among the physicians depending upon the arrangements. This mitigates some of the risk to the primary care physician. Their entire capitation payment is not at risk for cost overruns.

*b. Payment Mechanisms*

As previously mentioned, the three basic physician compensation arrangements are fee-for-service, salary, and capitation. Under a fee-for-service arrangement, a physician's income increases with the number of services provided. This creates an incentive to provide more services. In contrast, when a physician is put at risk, by accepting a capitated payment, their income decreases with the number of services provided, creating the incentive to provide fewer and less costly services. Salaried physicians are subject to no risk because their income does not depend upon per capita costs. However, this creates the incentive to increase the number of resources

used simply because it requires less effort and has no impact on them personally.

(1) *Acceptance of Financial Risk.* A major factor in determining the overall success of HMOs is whether physicians accept some financial risk for providing health care services (Kongstvedt, 1989, pp. 47-55). A study conducted by John M. Eisenberg looked at physicians who are individually at risk for deficits in the HMO funds set aside for referrals. Their patients made 10.5 percent fewer doctor visits per enrollee. Similarly salaried and capitated physicians hospitalize their patients less than those paid by fee-for-service. Thus, the financial incentives to economize work functioned as anticipated. Pre-paid capitated plans experience fewer services per patient. (Eisenberg, 1991, pp. 3113-3115)

(2) *Reduced Hospital Expenditures.* Thomas P. Weil compared fee-for-service practices with similar HMO models. The HMOs have successfully reduced hospital admissions and overall expenditures. Expenditures for physicians services were reduced by 30 to 40 percent and expenditures for hospital services by 10 to 40 percent. To attain these utilization and cost reductions, physicians have generally been paid a salary or capitated budget. In contrast, IPAs or medical care foundations that pay independent physicians on a fee-for-service basis are not

less expensive than pure fee-for-service practices. (Weil, 1991, pp. 533-535). The conclusion is that the traditional HMOs provide high-quality, lower-cost care than IPAs or fee-for-service plans.

A 1987 survey also concluded that salary-based and capitation physician payments in HMOs reduced the rate of hospital days per enrollee as compared to fee-for-service payments. The average number of hospital days for HMOs was 365 +/- 92 days per 1000 enrollees. Salary-based payments reduced the number of hospital days by 47.4, a 13.1 percent reduction. Capitated payment reduced hospital days by 7.5 percent or 27.3 days, as compared to fee-for-service. (Hillman, 1989, pp. 86-92)

Capitation most likely reduced the rate of hospitalization because physicians paid by capitation do not receive additional revenue from the patients that they hospitalize. The apparent stronger influence of salary-based payment (which tends to be used in staff-model HMOs) on hospital utilization may reflect both the absence of a financial reward for hospitalizations and other nonfinancial factors, such as a greater degree of peer review in HMOs with salary-based payment (Hillman, 1989, pp. 86-92).

**c. *Physician Response to Incentives***

Research findings on fee-for-service practices are also consistent with the general theory that

physicians respond to financial incentives. For example, fee-for-service clinicians who perform their own radiological services obtain imaging studies 4.0 to 4.5 times more often than physician who refer the work to radiologists (Eisenberg, 1991, pp. 3113-3115). Another study demonstrated that when physicians were offered a bonus for increased services at a fee-for-service ambulatory care center, they increased laboratory tests by 23 percent (Eisenberg, 1991, pp. 3113-3115).

Physicians also have the incentive to focus on alternative revenue generating workload (i.e. Medicare, Third Party) under capitation budgeting, according to K. L. Orloff, a previous Chief Financial Officer of a Managed Health Care Organization. This practice generates more workload and revenue for the physician, and potentially restricts the capitated patients access to health care services.

#### ***d. Other Incentives***

Besides the financial incentives inherent in a capitation-based resource allocation system, there are non-financial incentives that affect the physicians' behavior in HMOs. These include utilization review, education, requirements for the prior approval of certain procedures, and follow-up reports about the prescribing physician's behavior. Some HMOs actually terminate

physicians if their prescribing behavior is inconsistent with the organization's financial goals. (Hillman, 1989, p. 91)

### **C. PATIENT INCENTIVES**

The patients are the ultimate consumers of health care. Hence, they are the ones that dictate the utilization of health care services. In order to help control rising health care costs, the patient must have incentives to use care economically and face an economic consequence as a result of their decision.

#### **1. Indemnity Insurance Plans**

Under a traditional health care plan, a patient can seek medical care services from any health care provider. The insurer is obligated to pay for the costs of these services within the coverage limits of the patient's health insurance policy. Patients bear sole responsibility for identifying their need for care, locating the care providers, and in most instances, paying for the care. After care has been received and paid for, the indemnity carrier reimburses the patient (Shouldice, 1991, pp. 6-10). A standard indemnity health insurance plan requires the patient to cost share, usually in the form of copayments and deductibles.

**a. Increased Cost Sharing**

To help control their medical insurance costs, employers have shifted to benefit packages that increase cost sharing by employees (Rahn, 1987, p. 2). A study conducted by Hewitt Associates reported that the percentage of employers requiring deductibles on hospital services rose from 30 percent in 1982 to 63 percent in 1984. The typical deductible rose from a range of \$50 to \$100 to a range of \$100 to \$200. In 1982, 67 percent of the employers required no employee copayments after the deductible. By 1984, the figure had dropped to 42 percent. The remaining 58 percent required copayments of 10 to 20 percent. (Rahn, 1987, pp. 2-4)

**2. Managed Care Organizations**

The Health Maintenance Organization Act of 1973, and its 1976 amendment, stimulated the growth of prepaid managed care systems. Managed care plans offer consumers a less costly alternative than the traditional fee-for-service system (Luft, 1980, p. 1).

Managed care plans are designed to control the finance and delivery of health services (Shouldice, 1991, p. 11). They also provide financial protection against the burdens of catastrophic illness. This precludes most, if not all, of the economic uncertainty resulting from large unanticipated medical expenses. This protection is usually



not included in standard insurance programs. It is only acquired at additional expense by purchasing additional coverage often referred to as "major medical" care.

**a. Lower Charges and Premium Growth**

As mentioned previously, the PPS gives managed health care providers an incentive to be cost conscious. Thus, the premiums plus out-of-pocket expenses for people enrolled in managed care plans average 10 to 40 percent less than the total patient costs incurred under traditional insurance. These cost savings are primarily explained by reductions in costly hospital care (Luft, 1980, pp. 1-5).

Premium rates also grew more slowly in managed care plans compared to indemnity plans. In 1991, the average HMO premium rate rose 7 percent and 8 percent over 1990 for family and individual coverage, respectively. On the other hand, premiums for indemnity health insurance plans rose 19 percent in 1991 for family coverage. (Marion Merrell Dow, 1992, p. 5)

**b. Health Maintenance Organizations**

The consumer incentives are substantial under HMOs. Since all costs have been prepaid through a premium, the HMO does not charge patients for specific services rendered (Shouldice, 1991, pp. 11-13). When care is required, the HMO directly furnishes services through its

professional staff and affiliated organizations (Shouldice, 1991, p. 12). This creates limited provider selection because members are "locked-in" to the HMO system. Consumers are responsible for medical bills if they use non-HMO physicians (Barger, 1985, pp. 89-95).

Since all costs have been prepaid, consumers do not have any financial incentives to limit care in HMOs. Instead, a primary care physician is established as a gatekeeper to guide the consumer and ensure they receive the appropriate amount of health care.

Refer to Appendix C for a further discussion on health maintenance organizations.

#### *c. Preferred Provider Organizations*

Contrasted to HMOs, PPO beneficiaries have freedom in selecting a health care provider for any covered service. However, there are substantial economic incentives to choose only preferred providers (Barger, 1985, pp. 89, 90). The patient may choose any physician included on the PPO panel, or any available physician in the community, for each episode of care (Shouldice, 1991, pp. 57-68). No prior provider selection is necessary (e.g. at enrollment in the PPO).

This PPO characteristic creates a two-tier benefits structure; when patients use a designated preferred provider, their out-of-pocket expenses are reduced. Basic

coverage is provided for services rendered by non-PPO providers, but coinsurance and deductibles usually apply. The patient is fully responsible for any portion of the provider's bill that exceeds the PPO's maximum allowable payment. Compared with HMOs, that totally lock-in enrollees in the HMO system, PPO enrollees have greater flexibility in choosing physicians. The financial consequence of choosing an out-of-panel physician is significantly less in a PPO than in an HMO. The patient pays the entire fee for out-of-HMO-plan physicians. (Shouldice, 1991, pp. 57-68)

Refer to Appendix C for a further discussion on preferred provider organizations.

*d. Summary*

The main incentive for patients under a managed health care plan can be summed up as lower out-of-pocket costs. However, to compensate for this reduced expense, the patient experiences access limitations. The following table summarizes the patient's cost share and choice of doctor/hospital under two managed care plans, HMOs and PPOs (Barger, 1985, pp. 89-95).

## PATIENT INCENTIVES UNDER HMO AND PPO

TABLE III

Characteristics	HMOs	PPOs
Employee Cost Sharing		
Premium	Yes/No <sup>7</sup>	Yes/No
Deductibles	No	Yes/No
Copayments	No/Limited	Limited/ Significant
Employee/consumer choice of doctors/hospitals	No; limited	Yes; unlimited, but with penalty if preferred provider not used

A patient enrolled in a typical HMO has no deductible or copayment on any health care received. However, there is no choice of hospitals or doctors (outside the plan). A patient enrolled in a PPO is subject to deductibles and copayments, but has greater flexibility in the choice of physicians.

### 3. Studies and Findings

Although there are strong financial incentives for a patient under a managed care plan to receive care from providers within the plan, there are some concerns regarding availability and accessibility of care. A 1986 Rand Corporation study compared levels of patient satisfaction

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<sup>7</sup>Some employers may cover the entire premium for their employee.

with prepaid and fee-for-service medical care (Shouldice, 1991, p. 247). The study determined that the overall satisfaction level was the same for both the HMO and the fee-for-service system; but the people assigned to the HMO were less satisfied overall. With regard to specific features of the program, those in the fee-for-service system scored their program higher in length of appointment waits (shorter); parking arrangements (better); availability of hospitals (better); and continuity of care (better). Prepaid consumers were more satisfied with the length of office waits and cost of care. (Shouldice, 1991, pp. 247, 248)

Another Rand study examined health insurance plans from 1975 to 1982. The study found that managed care plans hold the patient responsible for compliance. Under fee-for-service systems, providers have strong financial interests to coerce additional follow-up care by telephone and mail. Thus, fee-for-service plans are more aggressive and paternalistic. (Eastaugh, 1992, pp. 89, 90)

#### **D. QUALITY OF CARE**

As managed care plans and prospective payment systems have proliferated, concerns over the quality of care have been expressed. Any mechanism that gives physicians an incentive to cut unnecessary utilization also gives them an

incentive to not provide all of the needed health services. However, quality is very elusive to measure and physicians have traditionally been reluctant to define it (Schlackman, 1990, p. 13).<sup>8</sup> Avedis Donabedian, who has written seminal works on quality, suggests that before quality can be defined in a health care setting, one must first identify what it is that the health services organization (HSO) wants to accomplish, its objectives for health care and, more importantly, what should be achieved. He feels that quality of care is therefore defined as "that which has the greatest likelihood of achieving an organization's objective of care with the most efficient use of resources." (Donabedian, 1983, pp. 20-23). As mentioned previously, in this thesis, quality of care in managed care programs will be examined relative to quality of care under fee-for-service.

#### **1. Evidence**

Under PPS, hospitals have near term financial incentives to minimize health care services and discharge patients too early. Both of these incentives are absent under fee-for-service. In fact, fee-for-service encourages providing more services than is necessary. Concerns over the quality of HMO service have been brought up by the government (GAO 1989) and the general public. But HMOs

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<sup>8</sup>Unless otherwise stated, quality refers to clinical quality of care.

appear to be performing adequate quality control (Eastaugh, 1992, pp. 84-90).

A Rand health insurance study tracked a control group and a randomized cohort of enrollees in a managed care program from 1975 to 1983 (Eastaugh, 1992, pp. 84-90). The study failed to find any evidence that quality of care is any different in HMOs than in traditional fee-for-service medicine. Since 1980, several studies have suggested that HMOs generally have equal or better technical or clinical quality than the traditional delivery systems (Shouldice, 1991, pp. 194, 243, 244). These conclusions support the ability of managed care to achieve cost savings while maintaining quality.

David Mechanic further supports that prospective payment systems do not have any affect on the quality of health care. In a 1985 article regarding cost containment and quality of care, Mechanic reviewed several then available studies, and concluded that "there is little overall evidence...that variations in [use and] access of outpatient care have the significant impacts on health that some believe them to have." (Mechanic, 1985)

## **2. Contributing Factors**

There are various factors that explain why to date, there is little evidence that quality care has eroded under managed health care plans. These include consumer

actions, current Medicare laws, the 1973 HMO Act, employers' actions, and actions by health care organization themselves.

**a. Pressures From Consumers**

One reason that quality hasn't deteriorated is that the enrollees' actions as health care consumers create pressures to provide adequate care. Consumer behavior can take two forms - exit (switching to another plan when the enrollee is dissatisfied) or voice (complaining to providers or plan administrators). Each of these imposes costs on the plan and requires additional effort by providers. (Aiken, 1989, p. 101)

Also, if the quality of care was perceived by patients to be consistently poor, the health plan would cease to exist (Shouldice, 1991, pg. 323). This is a result of the plan no longer being able to attract enrollment. Thus, consumers' actions create both financial and nonfinancial reasons for prepaid systems to ensure they maintain high-quality services.

**b. Medicare Laws**

Another factor ensuring quality of care under prospective payment managed care plans is the current Medicare law. Under PPS, the Medicare law has two main provisions that deter abusive practices (U.S. GAO, 1986). First, in 1988, Congress mandated that professional review organizations (PROs) assess the quality of care rendered to



HMO members (Shouldice, 1991, p. 322). The law requires that PROs monitor hospital care in three areas: (1) the necessity of hospital admissions, (2) readmissions to hospitals to determine if premature discharges were involved, and (3) the quality of care provided by hospitals. These reviews identify and deter abusive practices relating to physician incentive plans. The PRO may recommend to the Secretary of Health and Human Services that a health plan's contract with HCFA be terminated if there are any problems.

Second, Medicare can exclude participating physicians and hospitals that are identified as furnishing inferior quality care (U.S. GAO, 1986). This capability also deters health care providers from not providing all necessary health care services. Given the aging population, Medicare patients potentially make up a substantial part of a health care practice.

**c. Other Factors**

(1) *Employer's Actions.* Another factor that contributes to quality of care in managed care programs is that employers seek carriers that can control costs and monitor quality through well-designed utilization review and case management programs (Trauner, 1987, p. 86). Utilization review incorporates three components to facilitate cost-efficient care: (1) preadmission review; (2) concurrent review; and (3) retrospective review.

(2) 1973 HMO Act. The 1973 HMO act also requires that qualified HMOs monitor utilization and effectively control medical costs (Rahn, 1987, pp. 56-58). HMOs must demonstrate controls that will enable it to meet its stated utilization goals. The procedures may include preauthorization of services, hospital concurrent and retrospective review, and a gatekeeper system (Rahn, 1987, pp. 55-59).

(3) *Health Care Organizations*. Managed care organizations may institute additional quality control devices on their own members to ensure quality is sustained. This is a result of the business enterprise drive on the part of the health care organization. The health care organization must attract enrollees to continue to exist and operate. These include such programs as formal peer reviews, health ombudsmen, proper grievance procedures and physician group contracts (Shouldice, 1991, pp. 313-315).

#### **E. FINDINGS AND CONCLUSIONS**

Managed health care plans and prospective payment systems were introduced in the private sector in response to escalating health care costs. In this respect, the questions of whether or not prospective payment managed care plans deliver quality, cost effective care must be addressed.

## **1. Cost Control**

There is evidence that managed health care plans do help control costs compared to the typical fee-for-service indemnity plans. In the period 1988-1991, indemnity plans experienced an annual cost-inflation of 17.9 percent on total health care costs, in contrast to 10.1 percent for staff-model HMOs and 14.4 percent for other HMOs (Eastaugh, 1992, pp. 84-90). Also, an eight year study conducted by GAO (1989) found that HMOs are more cost-effective than pure indemnity plans (Eastaugh, 1992, pp. 84-90).

## **2. Other Findings**

Based on the four subsidiary questions addressed, the introduction of a capitated-based resource allocation system in the civilian sector does provide incentives for the delivery of quality, cost effective care. This is evidenced by the following: (1) lower health care utilization rates from the reduction of unnecessary services, (2) decreased hospital and physician expenditures, (3) lower consumer out-of-pocket health care costs, and (4) sustained, if not increased quality of care.

## **F. SUMMARY**

Managed care programs in the private sector are identified most often as Health Maintenance Organizations (HMOs), Preferred Provider Organizations (PPOs), or any hybrid among these products. The widespread support for

managed care programs, especially HMOs, reflects the belief that all three parties in health services transactions - providers, payers, and patients - will benefit, through the provision of quality, cost-efficient care. This chapter addressed the private sector's experience with capitation budgeting under managed care, particularly the incentives to the various players and quality of care. The conclusion was that the introduction of a capitation-based resource allocation system in the civilian sector does provide the incentives for the delivery of quality, cost-effective care.

The following chapter will address capitation budgeting in the MHSS. The incentives to the various players will be addressed, based on the private sector's experience. These findings will be used to answer the question: will capitation budgeting provide incentives for cost effective care in the MHSS.

#### **IV. INCENTIVES PROVIDED BY CAPITATION BUDGETING IN THE MHSS**

Prepaid care in civilian sector managed care organizations can provide some important lessons and insights for the MHSS. Capitation budgeting in the MHSS has the same goals as in the private sector, cost effective care. In this respect, the incentives provided by introducing capitation budgeting in the MHSS can be examined by drawing on the civil sector's experience.

This section briefly describes the MHSS and the current budgeting process. Then, it addresses the incentives under capitation budgeting for the various players within the Military Health Services System (CO, physicians, beneficiaries). Finally, quality of care within the MHSS will be discussed. These findings will answer the four subsidiary research questions from a military health care perspective.

##### **A. MILITARY HEALTH SERVICES SYSTEM**

The Military Health Services System provides care to Department of Defense (DoD) beneficiaries through military medical treatment facilities (MTFs) and the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS) (Executive Summary, p. 18-11). DoD's medical mission is

twofold (CNO (N931), undated, p. 1). The first major component is the Readiness Requirement: to maintain readiness and provide medical support to the armed forces during military operations. The second component is the Employment Benefit: to provide medical services and support members of the armed forces, their dependents, and other beneficiaries entitled DoD health care.

DoD provides its beneficiaries health care primarily through a direct care system of military hospitals and clinics. Active duty personnel must obtain services through the direct care system. Other beneficiaries, including active duty dependents, retirees and their dependents and survivors, use the direct care system on a space-available basis. In addition, beneficiaries under age 65 may obtain care from civilian providers with reimbursement through CHAMPUS.<sup>9</sup> (Executive Summary, p. 18-11)

The standard CHAMPUS program provides a fixed benefit to its eligible beneficiaries and places relatively few restrictions on them. For outpatient care, beneficiaries may chose freely between the direct care system and civilian providers. For inpatient care, beneficiaries who reside within the MTF's catchment area must seek care at the MTF before CHAMPUS accepts responsibility to pay for the care. If the MTF is unable to provide the care, the beneficiaries

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<sup>9</sup>Beneficiaries eligible for Medicare (Part A) are not eligible for CHAMPUS.

receive a non-availability statement (NAS). This enables them to seek care from a civilian provider. (Executive Summary, pp. 18-11, 18-12)

Under the direct care system, beneficiaries receive free outpatient care and pay a nominal rate for inpatient care. Active-duty service members and retired officers pay only \$4.75 a day. Active-duty dependents and dependents of retirees pay a slightly higher daily fee of \$9.30. In contrast, beneficiaries using standard CHAMPUS face cost sharing provisions, including deductibles and copayments, similar to those found in private health insurance indemnity plans. The beneficiaries' cost share depends on their sponsor's status (active duty or retired), type of care (inpatient or outpatient), and whether the provider is a participating provider. (Executive Summary, p. 18-12)

For outpatient care, all standard CHAMPUS users face both a deductible and copayments. Individuals currently pay a \$150 deductible and families pay a \$300 annual deductible. After meeting the deductible, active duty dependents pay 20 percent of the CHAMPUS allowable charge and all others pay 25 percent. No deductibles apply for inpatient care, and active-duty dependents pay only \$9.30 a day or \$25 per hospital stay, whichever is more. Retirees (under the age of 65) do pay substantially higher out-of-pocket costs for inpatient care financed by CHAMPUS. (Executive Summary, p. 18-13)

Active-duty dependents face a limit of \$1,000 on total out-of-pocket costs on CHAMPUS-covered medical bills in any fiscal year, while retirees face a limit of \$7,500. Even with these high limits, the incentives to use medical resources efficiently are weakened for many beneficiaries by supplemental or "wraparound" insurance policies that pay part or all of the individual's out-of-pocket costs (U.S. CBO, May 1993, p. 12).

The following tables summarizes beneficiaries benefits and cost sharing in the MHSS.

#### BENEFICIARIES MEDICAL BENEFITS IN THE MHSS

TABLE IV

Patients	<u>Service Hospitals</u>	<u>Standard CHAMPUS</u>	<u>Standard CHAMPUS</u>
	Inpatient and outpatient	Inpatient	Outpatient
Active-duty service members	Yes	No	No
Active-duty families	Yes, on a space available basis	Yes, but may need non-availability statement	Yes
Retirees, their families and survivors	Yes, on a space available basis	Yes, unless entitled to Medicare (Part A)	Yes, unless entitled to Medicare (Part A)

(Champus, 1990, p. 13).



# BENEFICIARIES COST SHARE IN THE MHSS

TABLE V

Patients	<u>Service Hospital</u> Inpatient	<u>Service Hospital</u> Outpatient	<u>Standard CHAMPUS</u> Inpatient	<u>Standard CHAMPUS</u> Out- patient
Active-duty	\$4.75 <sup>10</sup>	no charge	N/A	N/A
Active-duty families	\$9.30	no charge	The greater of \$9.30 per day or \$25 per day	20% of allowable charges after deductible <sup>11</sup>
Retirees	\$4.75 <sup>12</sup>	no charge	25% of billed charges or \$235 per day, whichever is less. <sup>13</sup>	25% of allowable charges after deductible.
Retirees families	\$9.30	no charge	25% of billed charges or \$235 per day, whichever is less.	25% of allowable charges after deductible.

(CHAMPUS, 1990, p. 14).

<sup>10</sup>Costs change over time.

<sup>11</sup>The annual deductible for individuals is currently \$150, and for families, \$300.

<sup>12</sup>Retired enlistees pay no charge for inpatient care at military hospitals.

<sup>13</sup>Beneficiaries eligible for Medicare (Part A) are not eligible for CHAMPUS.

## **1. DoD Beneficiaries**

To fulfill its medical mission, DoD runs one of the largest health care systems in the nation. In fiscal year 1993, about 8.5 million people were eligible to receive health care through the system (U. S. CBO, May 1993, p. 1). This number includes men and women on active duty in the active forces and reserves, their spouses and children, and retired military personnel and their dependents and survivors (U.S. CBO, May 1993, p.1). In the same fiscal year, approximately 5.8 million beneficiaries were CHAMPUS eligible (OCHAMPUS, undated).

Beneficiaries who choose to use the military's health care system receive most of their care through the direct care portion of the system. In fiscal year 1993 there were approximately 786 thousand admissions and 47 million visits at the MTF compared with 289 thousand admissions and 14 million visits covered by CHAMPUS (Kearns, 1993).

## **2. DoD Health Care Expenditures**

Expenditures on DoD health care activities constitute approximately 5.6 percent of the DoD budget and will exceed \$15 billion in fiscal year 1993 (Boone, 1993, pp. 122). Approximately \$9.5 billion are directly related to peacetime medical care for beneficiaries (U.S. CBO, May

1993, p. 6). Of this \$9.5 billion, CHAMPUS represented approximately \$3.6 billion (OCHAMPUS, undated).

### **3. Inflation**

Increased demand for improved health care and insufficient funds to cover sharply rising health costs have made health care a critical economic, social, and political issue in both the civilian sector and the MHSS. Health care costs in both the civilian sector and the MHSS have been rising faster than normal inflation. Inflation in the U.S. health care sector, as measured by the medical care component of the consumer price index (CPI), has risen 7.9 percent a year from 1982 to 1991, almost twice the rate of growth in the overall CPI during that period (4.1 percent) (U.S. CBO, May 1993, pp. 10, 11).

In the DoD sector alone, health care expenditures are expected to rise at a greater percentage than the national defense budget. The Congressional Budget Office (CBO) projects that spending on peacetime medical services to beneficiaries is likely to increase to \$12 billion between 1992 and 1997, a five-year jump of 17 percent (U.S. CBO, 1992, p.1). This increase in health care costs incorporates an expected 6 percent reduction in beneficiaries by the year 1997 (U.S. CBO, 1992, p. 5). Over the same period, the total budget for national defense would

increase by only 2.4 percent, to about \$291 billion (U.S. CBO, 1992, p.1).

Over the past decade, CHAMPUS has experienced rapidly escalating costs. The cost of all non-CHAMPUS military health care has risen by roughly 145 percent since 1979, compared with a 365 percent increase for CHAMPUS over the same time period (U.S. CBO, 1988, p.1). Thus, health care expenditures in the civilian sector are rising faster than in the DoD sector.

#### **4. Heavy Health Care Usage**

Compared with the U.S. population at large, dependents of active-duty personnel use hospitals heavily (U.S. CBO, May 1993, p. 13). In 1990, civilians in the United States under the age of 65 consumed about 535 days of hospital care per 1,000 people. Even after adjusting for differences in age and sex, active-duty dependents under the age of 65 living in the United States consumed about 720 days of care, either within the direct care system or CHAMPUS. Thus, hospital use by active-duty dependents is over one-third higher than the civilian rate. (U.S. CBO, May 1993, p. 13)

#### **5. Current Budget Process**

A significant factor that is contributing to the MHSS's heavy use is its current budget process. Military health providers currently have few incentives to curb

unnecessary and inappropriate health care use. DoD has historically provided each military hospital commander with a budget based on the quantity of care delivered and the level of resources used at the military treatment facility (U.S. CBO, May 1993, p. 13). To increase the facility's budget, the MTF commander has to deliver more care and use more resources (U.S. CBO, May 1993, pp. 13, 14). Any inefficiencies built into health care delivery escalate from year to year.

Under the current budget process, commanding officers are also not rewarded for any operational efficiencies, nor can they exercise any control over resources. Money that is not obligated at the end of the fiscal year is rescinded. It is assumed that the funds were not needed. Thus, the commander is "punished" in the following fiscal years by decreased budgets.

#### **B. INCENTIVES FOR THE COMMANDING OFFICER**

With the declining defense budget, resource constraints and cost containment become more critical each day. The capitation model that is discussed in this research will provide CO's with the incentive to provide cost effective care without impeding access or quality. Individual medical commanders would have good reason to curtail the heavy usage under this model because their budgets would not depend on

patient workload (U.S. CBO, 1988, p. 11). This would necessitate the commanders to accept the full risk of providing all of the needed health care to eligible beneficiaries.

#### **1. Current Budgetary System**

Under the traditional budgetary system, CO's do not have the incentive to ensure that care is provided economically. The incentives for the CO parallel the incentives for fee-for-service in the civilian sector; greater workload leads to greater income. Similarly, standard CHAMPUS care is paid on a fee-for-service basis.

As scarce resources dwindle, the current budgetary system ensures that CO's receive their "fair" share by demonstrating a "need" for funds. Unfortunately, this "need" is validated by the number of services provided. As more services are performed, regardless of the need, the requirement for the limited funds is substantiated.

The current budgetary system also pressures the local commanding officers to bring in-house as much of the highly visible CHAMPUS workload as possible. This is based on the premise that the facility and the capacity exists and its utility should be maximized whether or not other more cost effective alternatives exist. Furthermore, bringing more work in-house strengthens the justification for larger

operating budgets and demonstrates the indispensable nature of the operation.

## **2.    Capitation**

A capitated budget helps ensure that commanding officers use limited resources economically. If COs receive presumably all of their funds based upon the number of beneficiaries in their catchment area, the incentive to perform unnecessary care is eliminated. CO's no longer have to "game" the system by providing more services to receive their share of the medical budget. Commanding Officers, as local managers, would also have the flexibility and the incentives to make trade-offs between delivering care in-house or through CHAMPUS.

However, a commander who receives a capitated budget will have incentives similar to the civilian sector, and focus on revenue generating workload (i.e. Third Party Collections), and draw resources away from the capitated beneficiary. The establishment of utilization reviews will ensure that the capitated beneficiaries access to needed health care services is not affected.

### **a.    Gatekeepers**

True capitation budgeting will give the commanders the incentive to coordinate and control the beneficiary's health care needs. This would be accomplished in part by the establishing a gatekeeper to control access

to high cost specialists. The function of the designated primary care physician (gatekeeper) would serve as the beneficiary's sole entry point into the health care system (aside from emergencies). The gatekeeper would be responsible for referrals to specialists. Using a gatekeeper would help eliminate the inefficient use of high cost specialists by designating a health care manager. Beneficiaries would no longer be able to dictate their specialty care use.

**b. Flexibility**

As opposed to the current system, under a capitated budget, the commanding officers will also have the flexibility to make trade offs regarding the allocation of their resources. For example, CO's will have the flexibility to use any "excess" money to enhance mission requirement (i.e. purchasing equipment, upgrading facilities, or hiring civilian employees).

**C. MILITARY PHYSICIAN INCENTIVES**

Active duty physicians within the military health care services system are salaried and have no financial incentive to "churn," or perform unnecessary procedures for additional financial remuneration. Military physicians are paid the same regardless of the care rendered. The incentives for active duty physicians are analogous to the incentives for salaried physicians in the civilian sector. However, due to



shortcomings in the current military health care system, active duty physicians do contribute to the heavy medical use, particularly high-cost hospital care (U.S. CBO, 1988).

#### **1. Traditional Budgetary System**

Under the traditional budgetary system, military physicians are rewarded for generating additional workload. Although their salary is not contingent upon the amount of services they perform, their fitness reports and promotions may be. As Naval Officers, physicians' promotions are largely based upon their fitness reports. Fitness reports are completed by the CO. Many physicians are presently receiving "A" fitness reports and high ratings, indicating they are delivering high quality care. These ratings don't reflect that the care may not be provided prudently. One explanation for this behavior is that commanders are "rewarded" by increased budgets when physicians prescribe care uneconomically. At least their budgets have escaped being "cut" due to limited resources.

Apart from the current reward system, there are other reasons that physicians may use health care resource imprudently. MHSS physicians, similar to salaried physicians in the civilian sector, have no incentive to increase their productivity or limit their use of high cost technology because their income is not contingent upon productivity. Physicians may also want to satisfy the

patient by providing care that is demanded, verses what is actually needed.

## **2. Incentives Under Capitation**

Personally, physicians are rewarded with competitive fitness reports and promotions for delivering health care that is consistent with the commander's goals. Under capitation budgeting, the commanding officer doesn't have an incentive to generate additional workload to receive a larger operational budget. The incentive is to optimize the utility of limited available resources to provide quality care. If the capitated budget exceeds the cost of delivering health care, the CO can use the excess to help fulfill mission requirement and the delivery of quality medical care. Thus, military physicians in the MHSS have an incentives under capitation budgeting to provide care economically and efficiently.

### **a. Physicians as Gatekeepers**

As mentioned in the previous section, the physicians have the ultimate responsibility for delivering quality care. They directly determine the amount of resources expended for each unit of patient care, and the trade off between the demand, need, and patient utilization. Since capitation provides incentives to economize, military health care providers have an incentive to modify their medical practices. As gatekeepers, primary care physicians

can use hospital resources efficiently by regulating specialist consultations and other expensive services. Under capitation, the beneficiaries sole access to specialists, other than medical emergencies, is a referral from their primary care physician.

**b. Command Influence**

Commanding officers of medical treatment facilities also create an incentive for active duty physicians to provide health care efficiently. If the commander feels that the physician's ordering habits are excessive, the commander has the prerogative to take disciplinary action against the physician. Under true capitation budgeting, the commander can also transfer the active duty physician to another command, essentially "firing" the physician.

**D. MHSS BENEFICIARY INCENTIVES**

Capitation budgeting in itself will not encourage MHSS beneficiaries to economize on health care. However, the civilian sector's HMOs reduced hospital admissions without affecting the quality of care. This suggests that heavy use in the Military Health Services System does not necessarily promote better health. It appears that military health care services can be reduced without harming health.

There are two interrelated ways to reduce the beneficiaries' demand for MHSS: create incentives for the

beneficiaries to be cost conscious; and rely on gatekeepers to manage the patients' health care requirements.

#### **1. Incentives With Current System**

Beneficiaries of the MHSS currently have no incentives to use care economically. All of their health care needs, or wants, are provided virtually free. The patient who pays nothing for care will want to use medical services as long as they yield any benefit, regardless of the cost to society (Aaron, 1992, pp. 24-28). Beneficiaries do not face the economic consequences of their decisions. Patients do not face a budget constraint when consuming health care, as they do in purchasing other goods (Aaron, 1992, pp. 24-28). In the absence of such incentives, limited access serves to ration available care. In effect, the MTF relies on capacity constraints to reign beneficiary demand. The central issue in cost control is how to create the "economic man" concept on part of the beneficiaries.

#### **2. Managed Competition**

A principal feature of managed health care is creating incentives to foster cost-consciousness among consumers in their health care decisions (U.S. CBO, Feb 1993). As mentioned in the previous section, cost-consciousness is associated with patient cost sharing arrangements. Various studies have proven that cost-sharing encourages consumers to make more efficient decisions

regarding their health care needs. This has a positive effect on health care utilization rates (Executive Summary, pp. 18.15-18.18).

Under a capitation-based budgetary system, cost consciousness must be established among the beneficiaries to reduce the demand for health care. Civilian sector capitated and managed health care systems include some cost sharing by the consumers. To achieve similar results, beneficiary cost sharing should be introduced in conjunction with capitation budgeting in the MHSS. This would serve as the principal mechanism to control beneficiary demand for health care.

**a. Past Experience**

In the past, DoD has focused on controlling costs by improving incentives to providers. It has neglected strategies to increase the cost-consciousness of beneficiaries (U.S. CBO, May 1993, p. 15). Low CHAMPUS cost sharing and "free" health care at MTF's exacerbates the problem of unrestrained beneficiary demand for health care.

**b. Cost Sharing**

One way to introduce beneficiary cost sharing into the MHSS is by establishing a "nuisance fee." A nuisance fee is a small charge every time a beneficiary is seen at the emergency room or as an outpatient. This would keep the "worried well" out of the MHSS system, saving

valuable health care dollars. The nuisance fee would stimulate "economic man" behavior on the part of the beneficiary.<sup>14</sup> Beneficiaries will face economic consequences from their decisions to seek health care at the MHSS.

Introducing any beneficiary cost sharing in the MHSS will be politically difficult. Beneficiary groups have historically viewed increases in cost-sharing requirements as a reduction in their benefits (U.S. CBO, May 1993, pp. 25, 26). This could ultimately affect retention rates in the military services.

### **3. Gatekeeper**

As mentioned previously, the beneficiary's health care needs will be directed by a gatekeeper. The gatekeeper will guide the patient toward the most appropriate care, and determine when high cost specialty care is required. Patients will no longer have unlimited choice of health care providers, nor receive specialty care without a referral from their primary physician. This restricts beneficiaries behavior to a more cost effective range of care options and, therefore, reduces health care expenditures principally for high cost procedures.

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<sup>14</sup>There is evidence that a "small charge" achieves its intended purpose in a study conducted by Joel Slackman in a March 1984 CBO study, Options for Change in Military Medical Care.

**a. Patient Satisfaction**

It should be noted that establishing a gatekeeper might affect patient satisfaction. Satisfaction represents the degree to which a patient perceives that his/her expectations of health care have been fulfilled (Executive Summary). If patients feel that their condition warrants a specialist, and the gatekeeper feels differently, the patients' demand (expectation) has not been met. Patient satisfaction will most likely be affected when the patients' perceived demand does not equal the patients' real health care needs.

Under the traditional budgetary system, patient satisfaction would not be an issue. The patients' demands are satisfied (to the extent that limited access and capacity permits) because the MHSS budget is based on the various medical departments' workload. The more workload generated, the larger the health care budget. There are no incentives for the health care provider to equate the demand, need, and the cost of health care.

**E. QUALITY OF CARE**

The same quality concerns for a capitation-based resources allocation system in the civilian sector are issues in the MHSS. These concerns arise because health care providers are financially rewarded for curtailing services.

## **1. Utilization Review**

To ensure that quality of care is retained under capitation, the MHSS would need to conduct utilization reviews similar to those conducted in the civilian sector. These reviews would include a preadmission review, concurrent review, and retrospective review. This would help ensure that the appropriate health care is being delivered and quality care is not jeopardized.

Studies have shown that despite the added overhead costs of utilization reviews, managed care organizations that conduct these reviews still demonstrate cost savings. A 1988 12-year Rand Corporation study found that HMO members save up to 28 percent on health care costs, compared to individuals in the traditional fee-for-service system (Shouldice, 1991, pp. 32, 33).

## **2. Military Uniqueness**

Unlike the civilian sector, the MHSS also has additional incentives to deliver high quality care and ensure its beneficiaries remain healthy.

First, the 1.9 million active duty members of the armed forces must be physically fit and prepared to deploy at all times. DoD would not want to jeopardize the security of the United States because the service members' health care had eroded due to financial limitations. Thus, the



military readiness component gives commanders an incentive to deliver quality care.

Second, the Military Health Services System is responsible for and provides beneficiaries with health care as long as they are eligible for care. They cannot be "dropped" from the MHSS because they are high risk, or heavy users of the system. Therefore, there is an incentive to keep the beneficiary healthy and maintain high quality of care. If quality is reduced, the beneficiary will potentially consume more health care resources in the long run, an avoidable added expense.

Finally, health care is a major benefit to entice individuals to join the military. If quality of health care is sacrificed, retention rates could be adversely affected. Thus, there is a built in incentive for the commanding officer and DoD to ensure that quality is sustained.

#### **F. SUMMARY**

Implementing a capitation-based resource allocation in the Military Health Services System will change the incentives for the various players in the health care arena. Since capitation is a relatively new concept to the MHSS, prepaid care among private managed care programs, including HMOs, can offer some important lessons. This chapter addressed the incentives to the various players concerning

efficiency and quality of health care. It drew heavily on the private sector's experience.

The following chapter will draw conclusions and make recommendations as to whether a capitation-based resource allocation system will provide the incentives necessary to provide quality, cost-effective care within the Military Medical Department. The result will be based on the findings of the four subsidiary research questions.

## V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

### A. SUMMARY

This research was designed to determine if a capitation-based resource allocation system will provide the incentives necessary to provide quality, cost-effective care within the Military Health Services System . To answer this question, four subsidiary research questions were addressed:

- (1) What incentives exist for the local commanding officer under a capitation-based resource allocation system.
- (2) Does a capitation-based resource allocation system provide active duty physicians with the incentives to provide cost-effective care.
- (3) What are the incentives for the beneficiaries of the Military Health Services System under a capitation budgeting.
- (4) Will the quality of care erode under a capitation-based resource allocation system in the Military Health Services System.

To answer these questions, capitation budgeting and its salient characteristics were defined. Then, the risks and incentives associated with capitation budgeting were compared against other budgetary methods. Subsequently, the civilian sector's experience with prepaid managed care plans was analyzed. This analysis focused on the incentives to the various health care players under a pre-paid, managed care plan. It also questioned whether the quality of care

has been effected. Next, the study drew on civilian sector experience to evaluate the potential impact of incentives on various players in the Military Health Services System. The analysis was limited to the private sector's capitation methodology because DoD capitation policies are still evolving.

## **B. CONCLUSIONS**

The findings of this analysis lead to the conclusion that a capitation-based resource allocation system will provide the proper incentives for the various players in the military health care arena to provide quality, cost-effective care.

This finding assumes that a form of a full-risk staff/group model HMO will exist in the MHSS and gatekeepers will be employed. It also assumes that an enrollment system will exist before a true capitation-based resource allocation system is implemented. Finally, the "economic man" concept must be introduced to the beneficiaries of the military health care system by establishing a "nuisance fee." This includes addressing the issues concerning the supplemental or "wraparound" insurance policies available to beneficiaries that limit or negate their out-of-pocket costs. MTF commanding officers must also have local authority to make necessary trade off decisions regarding their resources.

### **C. RECOMMENDATIONS**

Based on the findings and conclusions presented above, it appears that the Military Health Services System should employ a capitation-based resource allocation system. However, before implementing capitation budgeting in the MHSS, matters such as enrollment, beneficiary cost-sharing, gatekeepers and the ability of local CO's to make trade-off decisions regarding their resources, must be resolved. This would help emulate the civilian sector's success in providing quality, cost-effective care under prepaid, managed care plans.

### **D. AREAS FOR FURTHER RESEARCH**

The focus of this analysis was to determine if a capitation-based resource allocation system within the MHSS would create the necessary incentives to provide quality, cost-effective care. Due to the limitations of this study, there are areas of captation budgeting that warrant further research. They are the following:

- (1) Evaluate the per capita cost of health care under capitation budgeting in the MHSS.
- (2) After establishing a capitated model in the military health care services system, evaluate its effectiveness.
- (3) Evaluate the incentives for the commanding officer of the MTF to transfer beneficiaries to other medical facilities.

- (4) Address the need for the implementation of information systems to collect the necessary data required under a capitation-based resource allocation system.

## APPENDIX A - DOD CAPITATION BASED RESOURCE ALLOCATION MODEL

### FY 94 CAPITATION METHODOLOGY FOR THE MILITARY DEPARTMENTS<sup>15</sup>

Working groups composed of OASD(HA) personnel in concert with the Military Departments developed the initial, financial-based modified capitation methodology for use in determining the FY 94 Defense Health Program (DHP) resource allocation to the three Military Departments. This methodology has been further adapted to incorporate some of the concepts of managed care. The central idea of managed care is that it is a strategy that uses capitation as one of its approaches to containing costs while assuring accessibility and high quality of health care services.

The model is population driven and accounts for military unique and medical readiness related functions. This model has three major categories: (1) "Military Medical Support," consisting on non-capitated functions not directly related to the size of the force structure. (2) "Military Medical Unique Capitation Rate," an additive to the basic capitation rate for military personnel. This category reflects the military, medical unique costs and a portion of medical readiness costs that are related to the size of the force structure and is derived from specific requirements of the Military Departments. The first and second categories contain Military Personnel (MILPERS) and Operations and Maintenance (O&M) Direct Care funds. Medical Readiness will be protected. Transfer of resources out of Medical Support (Category 1) or Military Medical Unique Capitated (Category 2) programs must be approved by the OASD(HA). (3) "Medical Capitated Cost Rate," analogous to the capitation rate used in civilian Health Maintenance Organizations (HMO) or Health Alliances. This rate would be similar to medical rates charge by competing health plans under managed care. Included in this category are all costs (MILPERS, O&M Direct Care and O&M CHAMPUS) associated with providing patient care other than specific unique requirements for active duty members which are included in

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<sup>15</sup>Source: United States Department of Defense, Office of the Assistant Secretary of Defense (Health Affairs), Preparing the Military Health Services System (MHSS) for Capitation-based Resource Allocation, (attachment 1), Washington, D.C., 23 July, 1993.

the second category. If during the budget or execution year, the Military Departments reduce the medical Military Personnel funding below the level approved in the DHP POM and transferred to the Military Departments for budget formulation and execution the DHP can use this as a basis for a budget adjustment or an execution year reprogramming action to correct this imbalance.

The following three sections contain examples and the methodology for the calculation of items used in the computation of the proposed model, to include the identification of executable items for FY94 and a projection of some items to be included in FY95. These lists are not all inclusive and will be more fully developed when information is received from the Military Departments at upcoming work group sessions.

(1) Military Medical Support

A. (FY94 Executable Examples)

- Medical Entrance Processing
- Overseas Activities, (excludes 50 states)
- Aeromedical Evacuation System
- Armed Forces Institute of Pathology
- Environmental Restoration
- Capital Expense Initial Outfitting

B. (FY95 Executable Examples)

- Referrals from Overseas
- Contingency Bed Capacity
- Others to be Determined

Military Medical Support funding will be determined by considering mission changed, realignments, BRAC, inflation and other adjustments normally considered in the budgeting process.

(2) Military Medical Unique Capitation Rate

- Readiness Planning
- Physiological Training Flights and Labs
- Military Funded Emergency Leave
- Readiness Exercises and Training
- Veterinary Services
- Optical Labs
- Education and Training (cost projections will be capitated on medical active duty population)
- Dental Care



These items are provided as examples that would be included in the FY94. These are functions and activities that have a relationship to the size of the military population supported.

Calculation of the Rate: The FY92 costs for these functions will be identified by the Military Departments and adjusted to ensure the overseas portion is addressed in the first category, "Military Medical Support." This amount will be divided by the responsible Military Department FY92 active duty population yielding a Service-specific, "Military Medical Unique Capitation Rate." This rate will be inflated to FY94.

### (3) Medical Capitated Cost

Calculation of the Rate: The base year of FY92 will be adjusted to reflect existing funding anomalies such as Army RPMA/Base Operating Support (BOS) costs, items funded from other than Medical Force Program 8 sources, etc. The amounts expended in the FY92 for (1) "Military Medical Support" and (2) "Military Medical Unique Capitation Rate" will be subtracted from the total obligations to yield the (3) "Medical Capitated Cost" amount. This amount will be divided by the Military Department estimated user beneficiary population to yield a Military Department specific capitation rate. This rate will be inflated to FY94 with corrections based upon FY93 execution data. As the model progresses and more costs are identified in the first two categories, the need for this information will be eliminated.

### (4) User Population

Calculation: All Medical Health Services System eligible beneficiaries do not use the system. For the purposes of computing capitation rates the number of estimated users of the system, based on full-time equivalents, will be used as the basis rather than the number of eligible. Because we do not have an enrollment system, the number of users will be estimated by comparing our observed workload with civilian experience. Estimates of the number of users for the base-year will be developed by responsible Military Department and beneficiary category. In future years, until an enrollment system is in place, the number of users will be measured by means of a survey. For the outyears, population projection of all eligible enrolled beneficiaries, as provided by the Military Departments, will be provided by responsible Service, beneficiary category, and age.

(5) FY94 Funding

Calculation: The (1) "Military Medical Support" costs will be inflated and adjusted to FY94. The (2) "Military Medical Unique Capitation" rate will be applied to the budgeted end strength and medical end strength for each Service. These two amounts will be subtracted from available funding, and the residual will be allocated to the Military Departments based upon estimated users. Any shortfall in funding will be appropriately apportioned among the Military Departments.

## APPENDIX B - DEFINITIONS

Adjusted average per capita costs (AAPCC). Medicare's managed care payment system. Payment is set at 95 percent of the amount estimated by the Health Care Financing Administration that similar care would have cost in a fee-for-service setting. (Shouldice, 1991, p. 505)

Alternative delivery and financing system. An alternative to the fee-for-service financing system. Examples include a health maintenance organization (HMO), independent physician association (IPA), or preferred provider organization (PPO) (Slee, 1986, p.8).

American Medical Association (AMA). A national association of physicians (Slee, 1986, p. 9).

Case mix. The mix of cases, defined by age, sex, diagnosis, treatments, severity of illness, and so on, handled by a practitioner or hospital. Case mix is defined by: (1) grouping patients according to these factors; and then (2) determining the proportion of the total falling into each group. (Slee, 1986, p. 20)

Catchment Area. Defined geographic area served by a hospital, clinic, or dental clinic and delineated on the basis of such factors as population distribution, natural geographic boundaries, and transportation accessibility. For the Department of Defense Components, those geographic areas are determined by a set of 5-digit zip codes, usually within an approximate 40-mile radius of military inpatient treatment facilities. (Glossary, BUMED Inst. 6320.69)

Churn. Perform unnecessary medical procedures for additional renumeration. Typically an issue under a fee-for-service system. (Aiken, 1989)

Competitive Medical Plan (CMP). Any organization that meets specific eligibility criteria for Medicare risk contracting but is not necessarily an HMO. CMPs must be "at-risk" and provide physicians' services primarily through employees of the organization or through contracts with individual

physicians or groups of physicians. The CMP enters into an agreement with HCFA to provide specific services to Medicare beneficiaries for a predetermined and prepaid capitation sum based on HCFA's AAPCC. (Slee, 1986, p. 29)

Copayment. The share of the charges for a service for which the beneficiary is responsible under a coinsurance plan (Slee, 1986, p. 31).

Cost containment. Containing the costs of health care as a whole without impairing quality (Ginzberg, 1990, p. 270).

Cost Shifting. Increasing the charges to one group of patients (who presumably have the ability to pay, such as private pay patients) when the payment for another group of patients will not cover the costs (Slee, 1986, p. 33).

Deductibles. Amounts required to be paid by the insured under a health insurance contract before benefits become payable. Intended as a deterrent to overuse. (Shouldice, 1991, p. 508)

Diagnosis Related Groups (DRGs). A hospital patient classification system. The current payment system for Medicare is based on the federal government's setting a predetermined price for the "package of care" in the hospital (exclusive of the physician's fees) for each DRG. If the hospital can provide the care for less than the price, it can keep the "profit". If the care costs the hospital more than the price, the hospital has to absorb the loss. (Slee, 1986, p. 43)

Direct care system. The direct health care system is made up of hospitals and clinics operated by the Army, Navy, and Air Force. It includes 140 hospitals and 553 clinics worldwide and employs more than 54,000 civilian, as well as 146,000 active-duty military personnel. Almost all of the care that beneficiaries receive through the direct care system is supplied by military physicians working at the Medical Treatment Facilities (MTFs). (U.S. CBO, 1993, p. 3)

Enrollee. Any person eligible for services, either as a subscriber or a dependent, in accordance with a contract. In this study, subscriber/patient/enrollee are used interchangeably. (Shouldice, 1991, p. 509)

Fee for service. In respect to the physician or other supplier of service, this refers to the payment of specific amounts for specific services rendered on a service unit basis - as opposed to salary, or other contract arrangements. In relation to the patient, it refers to the payment of specific amounts for specific services received on a service unit basis, as opposed to the advance payment of an insurance premium or membership fee for coverage under a plan that provides the services or payment to the supplier. (Shouldice, 1991, p. 510)

Full risk. Full risk includes both the risk on providing health care independent of the financing mechanisms and the financial risk.

Gatekeeper. A patient care manager who comes between the patient and secondary (specialist) care. This is one role of a primary care physician. (Slee, 1986, p. 55)

Health Care Financing Administration (HCFA). The division of the Department of Health and Human Services which administers the Medicare and Medicaid programs at the federal level (Slee, 1986, p. 58).

Health Service Organization (HSO). Usually a regional medical center, hospital, or medical group practice that delivers medical services. A generic term that describes organizations that deliver medical or mental health services. (Shouldice, 1991, p. 511)

Incentive. Refers to the economic incentives for hospitals by means of third party reimbursement formulas to motivate efficiency in management; or economic incentives for physicians who encourage decreased hospital utilization, promote judicious use of all resources, and increase delivery of preventive health services (shouldice, 1991, p. 512).

Indemnity Insurance. Insurance benefits provided in cash to the beneficiary rather than in services (service benefits). Indemnity insurance companies (e.g. Cigna, Metropolitan, Aetna) provide a wide range of health insurance benefits for which the employer bears no risk beyond the premium payments made on behalf of its employees. (Slee, 1986, p. 67)

Moral stress test. When a physician, in order to serve the needs of their patients, are forced to act in ways that are contrary to their own interests. In a system of restrictive gatekeeping, physicians are forced continually into a series of moral stress tests, knowing that the consequences of doing good for a patient will either entail financial penalties for themselves or limit the resources available to other patients. (Sulmasy, 1992, pp. 922-924)

Over-utilization. To provide more health care services than is necessary.

Panel. In regards to preferred provider organizations, it is a list of designated health care providers that contract to provide health care services, usually at a discount, to a defined population (Shouldice, 1991, pp. 57-60).

Patient. A person who has established a contractual relationship with a health care provider for that provider to care for that person. In this study, subscriber/patient/enrollee are used interchangeably. (Slee, 1986, p. 102)

Per Diem Payment. Reimbursement of an institution, usually a hospital, based on a set rate per day rather than on charges. Per diem reimbursement can be varied by service (e.g., med/surg, OB, mental health, ICU, etc.) or be uniform regardless of intensity of services. (Slee, 1986, p. 105)

Physicians. A person qualified by a doctor's degree in medicine (Slee, 1986, p. 107).

Premium. A prospectively determined rate that a member pays for specific health services (Shouldice, 1991, p. 515).

Prospective payment system. A term which actually means prospective "pricing" system. The generic term for the system currently in use for paying for services for Medicare patients under the Diagnosis Related Group (DRG) program. The idea is that patients are classified into categories for which prices are negotiated or imposed on the hospital in advance. (Slee, 1986, p. 115)

Provider. A hospital or health care professional who provides health care services to patients. May be a single hospital, an individual, or a group or organization. (Slee, 1986, p. 116)

Restrictive gatekeeper. Any system in which either the physicians' income or the money available to the physician to provide care for other patients is tied to the physician's proficiency in limiting tests, treatments, and consultations ordered for patients. This method is often used for example in a for profit health maintenance organization. It can take several forms, for example financial penalties for the use of resources at a level deemed to be excessive, financial rewards (such as bonuses) for the use of resources at a level deemed to be efficient, or capitation systems in which a fixed amount of money is allotted to the physician to use in caring for a fixed number of patients over a determined period. (Sulmasy, 1992, p. 925)

Risk. Any chance, or the possibility that revenues of the health plan will not be sufficient to cover expenditures incurred in the delivery of health care (Shouldice, 1991, p. 516).

Risk sharing. Physicians and hospitals have agreed to a financial stake in the health plan's operation; their compensation is based, to some degree, on their ability to hold the use of services at an appropriate level and to decrease the use of the more expensive sources of care. (Shouldice, 1991, p. 516)

Salary. Salary systems are taken to include all systems in which the physician's income is determined by time (for example, annually or hourly). In salary systems, neither the physicians income nor the budget available to care for the patient depends upon proficiency in limiting per capita patient care expenditures. (Sulmasy, 1992, p. 925)

Subscriber. A person enrolled in a prepayment plan. In this study, subscriber/patient/enrollee are used interchangeably. (Slee, 1986. p. 140)

Tax Equity and Fiscal Responsibility Act (TEFRA).  
Authorized Medicare to pay, on a prospective rate-setting

basis, those organizations that have a cost-based or risk-based contract with the HCFA (Shouldice, 1991, p. 49).

Utilization Review. Incorporates three separate components designed to facilitate appropriate cost-efficient care.

1. Preadmission review is intended to justify the medical need for an acute inpatient admission. The primary focus is to determine whether or not the patient needs inpatient care based on the perceived severity of the patients illness and the required length of service.
2. Concurrent review monitors the patient's hospital stay in regard to necessity of continued hospital care. The priority is to emphasize efficiency and expediency of care, treating the patient at the most appropriate level of acuity.
3. Retrospective review analyzes utilization data by case, by service, or by physician, in an attempt to uncover any trends or variances that may require more specific attention. (Rosenstein, 1991, p. 318)



## APPENDIX C - MANAGED HEALTH CARE ORGANIZATIONS

### Types of Managed Health Care Organizations<sup>16</sup>

#### HEALTH MAINTENANCE ORGANIZATION (HMO)

Health Maintenance Organizations (HMOs) are organized health care systems that are responsible for the financing and delivering a broad range of comprehensive health services to an enrolled population for a prepaid, fixed fee. An HMO can be viewed as a combination of a health insurer and a health care delivery system. Whereas traditional health care insurance companies are responsible for reimbursing covered individuals for the cost of their health care, HMOs are responsible for providing health care services to their covered members through affiliated providers.

As a result of their responsibility for providing covered health services to their members, HMOs must assure that their members have access to covered health care services. In addition, HMOs are generally responsible for assuring the quality and appropriateness of health services they provide.

The five common models of HMOs are staff, group practice, network, individual practice association (IPA), and direct contract. The primary differences between each of these models are based on how the HMO relates to its participating physicians.

#### Staff Model

In a staff model HMO, the physicians who serve the HMO's beneficiaries are employed by the HMO. These physicians typically are paid on a salary basis and may also receive bonus or incentive payments based on their performance and productivity. Staff model HMOs must employ physicians in all of the common specialties in order to provide for their members' health care needs. These HMOs may contract with selected subspecialists in the community for infrequently needed health services.

Staff model HMOs are also known as "closed panel" HMOs because most participating physicians are employees of the HMO. Community physicians are unable to participate. Staff

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<sup>16</sup>Source: Kongstvedt, Peter R., ed., The Managed Health Care Handbook, (Rockville: Aspen Publishers, Inc, 1989), 11-18.

model HMOs usually contract with hospitals and other inpatient facilities in the community to provide nonphysician services for their members.

Staff model HMOs can have an advantage relative to other HMO models because they have greater control over the practice patterns of their physicians. As a result, it can be easier for staff model HMOs to manage and control health services.

#### Group Model

In group model HMOs, the HMO contracts with a multi-specialty physician group practice to provide all physician services to the HMO's members. The physicians in the group practice are employed by the group practice and not by the HMO. In some cases, these physicians may be allowed to see both HMO patients and other patients, although their primary function may be to treat HMO members.

Physicians in group practices share facilities, equipment, medical records, and support staff. The group may contract with the HMO on an all-inclusive capitation basis to provide physician services to HMO members. Alternatively, the group may contract on a cost basis to provide its services.

#### Network Model

In network model HMOs, the HMO contracts with more than one group practice to provide physician services to the HMO's members. These group practices may be broad-based, multi-specialty groups, in which case the HMO resembles the group model described above. Alternatively, the HMO may contract with several small groups of primary care physicians in which case the HMO can be classified as a primary care network model.

In contrast to Staff and group model HMOs, network models may be either closed or open panel plans. If the network model HMO is a closed panel plan, it will only contract with a limited number of existing group practices. If it is an open panel plan, participation in the group practices will be open to any physician who meets the HMO's and group's credentials criteria.

#### IPA Model

IPA model HMOs contract with an association of physicians - the independent practice association (IPA) - to provide physician services to their members. The physicians are members of the IPA, which is a separate legal entity, but they remain individual practitioners and retain their separate offices and identities. IPA physicians continue to

see their non-HMO patients and maintain their own offices, medical records, and support staff. IPA model HMOs are open panel plans because participation is open to all community physicians who meet the HMO's and IPA's credentials criteria.

#### Direct Contract Model

As the name implies, direct contract model HMOs contract directly with individual physicians to provide physician services to their members. With the exception of their direct contractual relationship with participating physicians, direct contract model HMOs are similar to IPA model plans.

Direct contract model HMOs attempt to recruit broad panels of community physicians to provide physician services as participating providers. These HMOs usually recruit both primary care and specialist physicians and typically use a primary care case management approach (also known as the "gatekeeper" system).

Like IPA model plans, direct contract model HMOs compensate their physicians on either a fee-for-service basis or primary care capitation basis. Primary care capitation is much more commonly used by direct contract model HMOs because it helps to limit the financial risk assumed by the HMO. Unlike IPA model HMOs, direct contract model HMOs retain most of the financial risk for providing physician services; IPA model plans transfer this risk to their IPAs.

#### INDEPENDENT PRACTICE ASSOCIATION (IPA)

An independent practice association (IPA), which is also known as an individual practice association, is an association of individual, independent physicians or small groups of physicians that has been formed to contract with one or more managed health care organizations. IPAs may adopt any of several organizational forms, including not-for-profit membership corporations, for-profit stock corporations, partnerships, and associations.

IPAs serve several important functions for HMOs and other managed health care organization. First, they provide a mechanism for translating capitation payments from an HMO into another form of physician payment. HMOs find it desirable to make their payments to physicians and other providers on a capitated basis. In contrast, many physicians are reluctant to accept capitation payment for their services. May IPAs bridge this gap by accepting capitation payments from HMOs and converting these payments

into fee-for-service payments to individual participating physicians.

#### PREFERRED PROVIDER ORGANIZATION (PPO)

Preferred provider organizations (PPOs) are entities through which employer health benefit plans and health insurance carriers contract to purchase health care services for covered beneficiaries from a select group of participating providers. Typically, participating providers in PPOs agree to abide by utilization management and other procedures implemented by the PPO and agree to accept the PPO's reimbursement structure and payment levels. In return, PPOs often limit the size of their participating provider panels and provide incentives for their covered individuals to use participating providers instead of other providers. In contrast to typical HMO coverage, individuals with PPO coverage are permitted to use non-PPO providers, although higher levels of coinsurance or deductibles routinely apply to services provided by these non-participating providers.

#### INDEPENDENT PRACTITIONER ORGANIZATION (IPO)

Independent practitioner organizations (IPOs) are a hybrid form of entity that has characteristics in common with both IPAs and medical associations. IPOs are generally organized by community physicians to evaluate and negotiate participation in HMOs and other managed care organizations. Whereas the primary purpose of an IPA is to act as a vehicle for physicians to participate in an HMO, the primary purpose of an IPO is to service as clearing house for information about managed health care organizations for its members physicians.

In general, IPOs do not accept financial risk for providing services to HMO or PPO members. Instead, IPOs collect and review information about how the HMOs and PPOs in their communities operate so they can advise their members about participation.

#### EXCLUSIVE PROVIDER ORGANIZATION (EPO)

Exclusive provider organizations (EPOs) are similar to PPOs in their organization and purpose. Unlike PPOs, however, EPOs limit their beneficiaries to participating providers for their health care services. In other words, beneficiaries covered by an EPO are required to receive all of their covered health care services from providers that participate with the EPO. The EPO does not cover services received from other providers.

Some EPOs parallel HMOs in that they require exclusive use of the EPO provider network and also use a "gatekeeper" approach to authorize nonprimary care services. In these cases, the primary difference between an HMO and an EPO is that the former is regulated under HMO laws and regulations while the latter is regulated under insurance laws and regulations.

EPOs usually are implemented by employers whose primary motivation is cost saving. These employers are less concerned about the reaction of their employees to severe restrictions on the choice of health care provider.

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